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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/631,716

08/03/2000

Roger Donell Weekly

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06/29/2004

SHAFFER & CULBERTSON, L.L.P.
1114 LOST CREEK BLVD.
SUITE 420
AUSTIN, TX 78746

EXAMINER

MEEK, JACOB M

ART UNIT

PAPER NUMBER

2631

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DATE MAILED: 06/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/631,716

Applicant(s)

WEEKLY, ROGER DONELL

Examiner

Jacob Meek

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 August 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 - 23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4,6,9-14,16-18,20,21 and 23 is/are rejected.
- 7) ☒ Claim(s) 3,5,7,8,15,19 and 22 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claims 1 - 23 are objected to because of the following informalities:
Claims section should start with a statement such as – what is claimed is – or – what we claim is-. Claims 1 – 23 are objected to as lacking transition clause such as comprising, consisting of. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 2, 9, 17, 18, 20, 21, and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Evoy (US Patent 5,787,294).

With regard to Claim 1, Evoy teaches an apparatus including a modulating arrangement (See Figure 6, reference 20) operatively connected to apply a first modulation (See Figure 6, reference 26) to one of the system supply voltage (See Figure 6, reference 18) or a clock signal frequency for the system; and a corresponding modulating arrangement (See Figure 6, reference 24) operatively connected to apply a corresponding modulation to the other one of the system supply voltage or the clock signal frequency (See Figure 6, reference 12).

With regard to Claim 2, Evoy further teaches the modulating arrangement includes a modulator connected to provide a modulated signal (see Figure 6, reference 26, and 22) to a reference input to the power supply circuit; and the

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corresponding modulating arrangement includes an arrangement for applying the system supply voltage to control modulation of the clock signal frequency (see Figure 6, references 22 and 24 for modulation control, and Figure 4 for voltage / frequency control relationship).

With regard to Claim 9, Evoy further teaches the first modulation and the corresponding modulation comprise unequal waveforms (See Figure 4, Columns labeled Freq Assumed % and Voltage %). Evoy discloses the Frequency is modulated more aggressively than Voltage.

With regard to Claim 17 Evoy teaches a method for modulating a power supply signal for the circuit at a first modulation (See figure 6, references 18, 20, 22, and 26), and modulating the frequency of the clock signal for the circuit at a corresponding modulation (See figure 6, references 12, 20, 22 and 24 and Claim 15).

With regard to Claim 18 Evoy further teaches a method for modulating a reference voltage input to a power supply for the circuit (See figure 6, references 18, 20, 22, 26).

With regard to Claim 20 Evoy further teaches applying a modulation signal source output (See figure 6, reference 20, 22, 24) to a modulation input of a clock source circuit (See figure 6, reference 12).

With regard to Claim 21 Evoy further teaches applying the modulation signal source output (see figure 6, references 20, 22, 26) to modulate a reference voltage input to a power supply circuit (See figure 6, reference 18).

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With regard to Claim 23 Evoy teaches the first modulation waveform and the corresponding modulation waveform are unequal (See Figure 4, Columns labeled Freq Assumed % and Voltage %). Evoy discloses the Frequency is modulated more aggressively than Voltage.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 4, 6, 10, 11, 12, 13, 14, and 16 are rejected under 35 U.S.C.

103(a) as being unpatentable over Evoy (US Patent 5787294) in view of Hardin

et al (Spread spectrum clock generation for the reduction of radiated emissions; Hardin, K.B.; Fessler,

J.T.; Bush, D.R.; Electromagnetic Compatibility, 1994. Symposium Record. Compatibility in the Loop. IEEE

International Symposium on , 22-26 Aug. 1994 Pages:227).

With regard to Claim 4 teachings and limitations are taught in Claims 1 and 2 with the addition of spread spectrum clock source and wherein the system supply voltage is used to produce a modulation signal for a modulation input to the spread spectrum clock source. Evoy fails to teach the use of a spread spectrum clock source. Hardin et.al. teach the advantages and need for a spread spectrum clock system (See Figures 1, 2, and 5). It would have been obvious to one of ordinary skill in the art to adapt the system of Evoy with the

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spread spectrum clock of Hardin to produce an apparatus with superior EMI performance.

With regard to Claim 6 teachings and limitations are taught in Claim 1 with the addition of a spread spectrum clock source having a modulation input, and wherein the modulating arrangement includes a modulation signal source having an output connected to the modulation input of the spread spectrum clock source. Evoy fails to teach the use of a spread spectrum clock source. Hardin et.al. teach the advantages and need for a spread spectrum clock system (See Figures 1, 2, and 5). Motivation to combine is discussed above in Claim 4.

With regard to Claim 10 Evoy teaches an apparatus having a clock source (See Figure 6, reference 12) having a frequency modulation input (See Figure 6, reference 24 and 22) and providing a clock signal, a power supply circuit (See Figure 6, reference 18) providing a supply voltage output, a modulating arrangement (See Figure 6, reference 20) operatively connected to apply a first modulation (See Figure 6, reference 26 and 22) to one of the supply voltage output or the frequency of the clock signal, and a corresponding modulating arrangement operatively connected to apply a corresponding modulation to the other one of the supply voltage output or the frequency of the clock signal. Evoy fails to teach a spread spectrum clock. Hardin et.al. teach the advantages and need for a spread spectrum clock system (See Figures 1, 2, and 5). It would have been obvious to one of ordinary skill in the art to adapt the system of Evoy with the spread spectrum clock of Hardin to produce an apparatus with superior EMI performance.

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With regard to Claim 11 teachings and limitations are taught in Claim 10 further by Evoy with the addition of the modulating arrangement comprising a modulator connected to provide a modulated reference input to the power supply circuit (See Figure 6, reference 26 and 22); and the corresponding modulating arrangement includes an arrangement for applying the system supply voltage output to control modulation of the clock signal frequency (see Figure 6, reference 24, and 22 for modulation control, and Figure 4 for voltage / frequency control relationship).

With regard to Claim 12 teaching and limitations are taught in Claims 10 and 11 further by Evoy with the addition of a signal translator connected to receive the system supply voltage output and provide a translated output to the frequency modulation input of the clock source (See Figure 4 for voltage / frequency control relationship). Hardin et.al. teach the advantages and need for a spread spectrum clock system (See Figures 1, 2, and 5).

With regard to Claim 13 teachings and limitations are taught in Claim 10 by Evoy, with the addition of a modulation signal source (See Figure 6, reference 20) having an output (See Figure 6, Reference 24 and 22) connected to the frequency modulation input to the clock source (See Figure 6, reference 12). Evoy fails to teach a spread spectrum clock source. Hardin et.al. teach the advantages and need for a spread spectrum clock system (See Figures 1, 2, and 5).

With regard to Claim 14 teachings and limitations are taught in Claims 10 and 13 further by Evoy, with the addition of a modulation signal source (See

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Figure 6, reference 20) output applied to modulate a signal (See Figure 6, reference 26 and 22) applied to a reference input of the power supply circuit (See Figure 6, reference 18).

With regard to Claim 16 teachings and limitations are taught in Claim 10 further by Evoy, with the addition of the first modulation waveform and the corresponding modulation waveform are unequal. Evoy teaches the first modulation and the corresponding modulation comprise unequal waveforms (See Figure 4, Columns labeled Freq Assumed % and Voltage %). Evoy discloses the Frequency is modulated more aggressively than Voltage.

Allowable Subject Matter

4. Claims 3, 5, 7, 8, 15, 19, and 22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jacob Meek whose telephone number is (703) 305-8953. The examiner can normally be reached on 8:00 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad Ghayour can be reached on (703) 306-3034. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JMM



STEPHEN CHIN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600